SCOPE OF WORK BASIC CONTRACT

STATE HIGHWAY 7 PLANNING AND ENVIRONMENTAL LINKAGE STUDY

March 10, 2011

CONTRACT TYPE

□ Specific Rate of Pay
■ Cost Plus Fixed Fee
□ Lump Sum

CONTRACT DATE: Anticipated APRIL 2011

PROJECT NUMBER: 007A-012 (16725)

PROJECT LOCATION: SH 7.

PROJECT CODE: 16725

THE COMPLETE SCOPE OF WORK INCLUDES THIS DOCUMENT (ATTACHED TO THE CONTRACT FOR CONSULTANT SERVICES) AND, IF REFERENCED,

SECTION 1 PROJECT SPECIFIC INFORMATION

SECTION 2 PROJECT MANAGEMENT AND COORDINATION

SECTION 3 EXISTING FEATURES

SECTION 4 REFERENCE ITEMS NEEDED BY THE CONSULTANT

SECTION 5 GENERAL INFORMATION

SECTION 6 STUDY WORK TASK DESCRIPTIONS

APPENDIX

SECTIONS 3, 4, AND 6 ARE AVAILABLE AS SEPARATE DOCUMENTS AND APPLY TO THE CONTRACT ONLY BY REFERENCE

Comments regarding this scope may be directed to:

David Wells

CDOT Agreements Office,

(303)757-9480

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SECTION 1
PROJECT SPECIFIC INFORMATION

1 PROJECT BACKGROUND

SH-7 has seen increasing impacts due to the continued growth in traffic along the corridor. This east-west highway provides two to four travel lanes within the study area, connecting the town of Lafayette in the west to Interstate 76 in the east. CDOT data indicates the average daily traffic (ADT) along this stretch of SH-7 is as high as 26,000 vehicles. SH-7 has full interchange connectors with US Highway 85 and I-25. SH-7 also has railroad crossings, both grade separated and at-grade.

Over the years, improvements to SH-7 have been constructed in a fragmented and disjointed fashion without the implementation of any significant, long-term vision. Currently there is no mutually agreed upon set of improvements for the corridor.

The intent of this Planning and Environmental Linkage Study (PEL Study) is to define a vision for the future of the corridor, identify environmental and resource concerns and opportunities in the corridor and use the information developed to develop alternatives to address the vision. The goal is to address the increasing congestion along SH-7 and to determine the short-term through long-term transportation needs of the corridor. The study will also identify transportation improvement alternatives that balance anticipated access needs, which will arise from land use changes, with mobility.

CDOT will award one contract as a result of this RFP.

2 PROJECT GOALS

The objective of this Project is to work with Public Stakeholders to develop a strategic vision for SH-7 between Lafayette and I-76. CDOT anticipates the Cities of Brighton, Broomfield, Lafayette and Thornton, Adams and Boulder Counties, the Town of Erie, the Regional Transportation District, the Denver Regional Council of Governments and the Federal Highway Administration will actively participate in the study (Agencies).

The objectives of the plan are:

1. To identify the goals, objectives and visions of various jurisdictions for the corridor.
2. Complete the study in a manner in accordance with the FHWA Planning and Environmental Linkage (PEL) process. This will include:
   - Public Outreach
   - Outreach to State and Federal Resource agencies
   - Documentation consistent commonly accepted PEL standards so information developed in this study can be appended or referenced in a final NEPA document
   - Assist CDOT in completing the PEL questionnaire for submittal to FHWA. This questionnaire has been included in Reference B.
3. To identify discrete segments of SH-7 which share similar physical roadway traits, adjacent land use characteristics and/or urban design constraints.
4. Identify existing and future problem areas in the corridor both from an operational and safety perspective.
5. Identify the existence of any major environmental and/or resource agency concerns which could have a substantially negative impact on implementing improvements in the corridor.

6. Assist CDOT, Public Agencies, and resource agencies in identifying issues in the corridor of importance to each respective agency
7. Assist stakeholders to determine needs for preservation of public right of way.
8. Establish a common vision and supporting goals and objectives for the corridor as a whole and for the discrete segments as identified in (3) above
9. Recommend a set of alternatives which;
   a) Balances regional mobility with local connectivity needs
   b) Enhances corridor aesthetics, safety and urban design components and multi-modal objectives within each identified discrete segment of SH-7.
10. Recommend and prioritize sections of the corridor for which a formal Access Control Plan should be implemented.

In order to meet these objectives the Study shall:

a. Recommend appropriate cross sections and horizontal envelopes for each discrete segments of the corridor which will enable CDOT and Local Agencies to preserve and enhance ROW to accommodate projected future needs.

b. Document the existing transportation system in the corridor including highway through lanes, right-of-way and access; arterial lanes and access; and transit types / service levels.

c. Document the travel markets that use the transportation system. Travel markets may be defined in terms of:

- Geographic locations of the origins and destinations
- Land Use characteristics
- Trip purpose
- Length of trip

d. Estimate future travel demands along the corridor with models from DRCOG and subsequent changes to Land Use Plans as provided by the Local Agencies.

e. Estimate the present and future levels-of-service for roadway segments along the corridor to identify problem locations which operate or may operate in the future at unsatisfactory levels (recently completed traffic studies and information from DRCOG may be used to collect this information).

f. Compare future travel demands to existing corridor capacity at select screenlines and identify the kinds of travel patterns that are inadequately served.

g. Identify distinguishing urban traits, adjacent land use characteristics and roadway conditions along different segments of SH-7. While defining these segments of the corridor, also identify the affected stakeholder's goals for that particular segment of SH-7.

h. Indicate current corridor features including functional classifications, lane configurations, roadway and right-of-way widths, sidewalk/parkway features, building set-backs, traffic volumes (roadway and intersection counts), utilities, bus stops, street furniture, structures, irrigation ditches, environmental factors/conditions, and safety concerns as identified in existing CDOT Safety Assessment Reports.

i. Prepare a list of transportation improvements planned for SH-7 and for other arterials that may cause secondary impacts to the corridor.

j. Assist CDOT and the jurisdictions in arriving at a common vision of the corridor's transportation functions and the desired corridor environment.

k. Advise the Agencies as to the existence of environmental concerns discovered during the course of the study which could have a substantially negative impact on future implementation of the common vision

l. Recommend and prioritize sections of the corridor for which a formal Access Control Plan should be implemented.

m. Provide an easy-to-read pictorial summary guide that helps evaluate the pros and cons of each alternative in a creative and meaningful way.

3 PLANNED IMPROVEMENTS

CDOT has decided to hire a consultant to assist in managing and conducting a PEL Study to provide an improved overview and understanding of SH-7. The selected consultant team (hereinafter referred to as the Consultant) shall evaluate the existing and future operating conditions and features of SH-7. In this study, the consultant shall produce a Corridor Conditions Assessment Report with the goal of identifying existing and anticipated problem areas and identifying both the conflicting and the congruent visions of each jurisdiction and CDOT for the corridor. The consultant shall than produce a Corridor Feasibility Study for SH-7 with the goal of expressing a common vision for the corridor and recommend portions of the corridor for which an Access Control Plan should be implemented.

Descriptions of the consultant responsibilities and duties are further described in this document.

The study area for this project includes State Highway 7 from US 85 (MP 76.99) to the junction of SH 287 and SH 7 (MP 62.0). This study area includes segments in Adams, Boulder, Broomfield and Weld Counties.

4 WORK DURATION

The time period for the work described in this scope is approximately 365 calendar days.

5 WORK PRODUCT

The Consultant work products are:

A. Reports
a) Corridor Conditions Assessment Report
b) Corridor Feasibility Study Report
B. Project Coordination
C. Interagency co-ordination
D. Schedules
E. Meeting Minutes
F. Task Work Products as described in Section 6

Detailed work product requirements are described in the following sections. All work required to complete this Scope of Work requires the use of English Units.

6 WORK PRODUCT COMPLETION

All submittals must be accepted by the CDOT Contract Administrator or designee.

7 SCOPE OF WORK ORGANIZATION

This draft scope of work has been reviewed by the Department and reflects a plan of approach based on the known goals. One factor determining the selection of a consultant is the ability of that consultant to analyze the project goals, evaluate the work elements, and formulate a work plan. This process may produce new approaches or modification to the project work elements. Because of that, all consultants should be aware the Final Scope of Work for the project will be produced with input from the selected Consultant.

SECTION 2
PROJECT MANAGEMENT AND COORDINATION

1 CDOT CONTACT

The Contract Administrator for this project is: John Schwab, Region 6 North Engineering Program Manager. Active day-to-day administration of the contract will be done by:

A. Name: Jacob C Koenig

B. Title: Resident Engineer

C. Address: 4670 Holly Street Unit D, Denver Colorado 80216

D. Telephone: (303) 398-6745

E. Fax: (303) 398-6781

2 PROJECT COORDINATION

Coordination may be required with the following:

A. Cities

a) Boulder
b) Brighton
c) Broomfield
d) Erie
e) Lafayette
f) Thornton

B. Counties

a) Adams
b) Boulder
c) Weld
d) Broomfield

Note: Entities listed above shall be referred to as Stakeholders.

C. Railroads

a) UPRR

D. Regional Transportation District (RTD)

E. Denver Regional Council of Governments (DRCOG)

F. Upper Front Range Transportation Planning Region

G. Federal Highway Administration (FHWA)

H. Urban Drainage and Flood Control District

I. CDOT Region 6 and Region 4

SECTION 3
EXISTING FEATURES

1 STRUCTURES

See Field Log of Structures

2 UTILITIES

Contact Utility Notification Center of Colorado (U.N.C.C.) at 1-800-922-1987.

3 IRRIGATION DITCHES TBD

4 RAILROADS TBD

Note: The above is a list of the known features in the area. It should not be considered as complete. The Consultant should be alert to the existence of other possible conflicts.

SECTION 4
REFERENCE ITEMS NEEDED BY THE CONSULTANT

1 CURRENT CDOT MANUALS, SPECIFICATIONS, STANDARDS, ETC.

The consultant shall obtain and utilize the most recent CDOT adopted references including standards and specifications, manuals and software or as directed by the CDOT Project Manager.

SECTION 5
GENERAL INFORMATION

1 NOTICE TO PROCEED

Work will not commence until the written Notice-to-Proceed is issued by the State with certification from the Consultant that the work will be completed within the allotted time. Work may be required, night or day, on weekends, on holidays, or on split shifts. CDOT must concur in time lost reports prior to the time lost delays are subtracted from time charges. Subject to CDOT prior approval the time charged may exclude the time lost for:

A. Reviews and Approvals.

B. Response and Direction

2 PROJECT COORDINATION

A. Routine Working Contact

The routine working contact will be between the CDOT Project Manager (CDOT/PM) and the Consultant Project Manager (C/PM) as defined in Appendix C.

B. Project Manager Requirements

Each Project Manager will provide the others with the following:

a. A written synopsis or copy of their respective contacts (both by telephone and in person) with others.

b. Copies of pertinent written communications.

3 ROUTINE REPORTING AND BILLING

The Consultant will provide the following on a routine basis:

A. Coordination

Coordination of all contract activities by the C/PM

B. Periodic Reports and Billings

The periodic reports and billings required by CDOT Procedural Directive 400.2 (Monitoring Consultant Contracts).

C. Minutes of all Meetings:

The minutes will be completed and provided to the CDOT/PM within five (5) working days after the meeting. When a definable task is discussed during a meeting, the minutes will identify the "Action Item", the party responsible for accomplishing it, and the proposed completion date.

D. General Reports and Submittals

In general, all reports and submittals must be approved by CDOT prior to their content being utilized in follow-up work effort.

4 PERSONNEL QUALIFICATIONS

The Consultant Project Manager (C/PM) must be approved by the CDOT Contract Administrator. Certain tasks must be done by Licensed Professional Engineers (PE) or Professional Land Surveyors (PLS) who are registered with the Colorado State Board of Registration for Professional Engineers and Land Surveyors. National Institute for Certification in Engineering Technology (NICET) or other certifications may be required for project inspectors and testers.

5 CDOT COMPUTER/SOFTWARE INFORMATION

The consultant shall utilize the most recent CDOT adopted software. The primary software used by CDOT is as follows:

A.	Earthwork	InRoads
B.	Drafting/CADD	InRoads and Microstation with CDOT's formatting configurations and standards
C.	Survey	CDOT Inroads TMOSS
D.	Geometry	CDOT COGO (Coordinate Geometry)
E.	Bridge design check	CDOT Staff Bridge software shall be used in either design or
F.	Estimating	Transport (an AASHTO sponsored software)
G.	Specifications	Microsoft Word

H.	Traffic	Highway Capacity Software (HCS)
I.	Traffic Operations	CORSIM or VISSIM
J.	Traffic Signals	Passer II-90
K.	Traffic Model	Quick Response System (QRS) II
L.	Hydraulics (HEC-RAS)	Hydrologic Engineering Center's River Analysis System
M.	Pavement Design	DARWin (AASHTO)
N.	Scheduling	Primavera
O.	GIS	ESRI, ArcMap geodatabases (Projection: UTM NAD 83, Zone 13)
P.	Noise Modeling	TNM v2.5
Q.	Misc	Microsoft Word, Excel, Power Point

6 COMPUTER DATA COMPATIBILITY

CDOT presently utilizes a data format which Consultants shall be required to use for submitting survey, photogrammetry and the design data: Inroads

The data format used by the Consultant to submit surveying and photogrammetric data shall be as determined by the CDOT/PM in coordination with the respective Region PLS. The data format for submitting design computer files shall be compatible with the latest version of the adopted CDOT program. The Consultant shall immediately notify the CDOT/PM if the firm is unable to produce the desired format for any reason and cease work until the problem is resolved. Refer to Table 1, Submittals, for additional information regarding the InRoads and TMOSS formats and the acceptable transmittal media.

7 PROJECT DESIGN DATA AND STANDARDS

A. General:

Appendix A is a list of technical references applicable to CDOT work. The consultant is responsible for ensuring compliance with the latest CDOT adopted version of the listed references. Conflicts in criteria shall be resolved by the CDOT/PM.

B. Specific Design Criteria:

Appendix B is a list of specific project criteria. The list is comprehensive and may include items that are not required for a tasks defined in this scope. The Consultant shall submit any proposed changes to the pertinent criteria to the CDOT/PM at one of the periodic progress meetings prior to initiating design.

SECTION 6
STUDY WORK TASK DESCRIPTIONS

This section establishes the consultant's individual task responsibility. The consultant shall maintain the ability to perform all work tasks which are indicated below, in accordance with the forms and conditions contained herein, and the applicable CDOT standards. Selected work tasks shall be assigned only after coordination and consultation with CDOT. The Consultant is also responsible for coordinating the required work schedule for those tasks accomplished by CDOT and other agencies. The Consultant should review this entire section to identify applicable material. Contact the Colorado Department of Transportation/Project Manager (CDOT/PM) if clarification is required (see Section 2.01).

The following activities of communication, consensus building, project team reviews, conceptual design, data gathering, documentation, and formal public notice should be planned by the Consultant and coordinated with the CDOT/PM. The time of their accomplishment will overlap and parallel paths of activity should be planned to finish the development phase in accordance with the shortest possible schedule. The type and number of meetings, documents, etc., will depend on the category and characteristics of the project work. A project plan shall be developed by the Consultant which satisfies the requirements of the project development. This plan must be approved by the Contract Administrator (see Section 2.01) before starting the work.

TASK 1 - PROJECT INITIATION AND CONTINUING REQUIREMENTS

The Consultant shall provide a plan for management coordination and control to ensure successful and timely completion of this study. At the beginning of work under this contract, the Consultant shall prepare a detailed work plan, including schedule and cost breakdown for each sub-task described in this scope of services.

The management plan shall establish the key decision points and let all participants know how and when they can provide input.

The management plan shall include a Public Participation Work Plan. The Public Participation Work Plan shall at a minimum include:

- Preliminary identification of critical issues and problems in need of resolution.
- Recommend the proper level and means of involvement in the study by the Public
- Identification of Resource Agencies with an interest in the corridor and the level of consultation required with each agency for successful completion of the study.
- Identification of community leaders, elected officials and key community groups and recommend level and means of involvement in the study by those identified.
- Identification of planned community events in the corridor that are scheduled during the study.
- Description of participation methods, objectives, and where each fits into the schedule.
- Lists of stakeholders, elected officials, recourse agencies and their respective contacts.

The Consultant shall submit monthly cost and schedule reports to enable project monitoring. The contract budget and schedule shall be regarded as the baseline against which status and progress are measured and reported.

The Consultant and the CDOT Project Manager (Project Manager) shall meet at least monthly to review the cost, schedule status and progress of the work, as well as address unanticipated problems and potential solutions. The Consultant shall prepare status presentations at key milestones to update the Agencies on the status and progress of the work. The Consultant shall be responsible for preparing and keeping a record of meeting minutes. The Consultant should carefully anticipate the number of meetings that shall be necessary, as the cost of all meetings shall be included as part of the contract price. The Consultant shall prepare for and participate in these meetings, and shall provide documentation of the meetings such as presentation materials and meeting minutes.

The Consultant shall submit working and final drafts on all work products in a timely manner to allow for adequate review and revision prior to final submittal schedules. The Consultant invoices shall be prepared to show cost against major milestone tasks.

<u>TASK 1 WORK PRODUCT</u>: Project management plan, contract budget and schedule and quality control plan, monthly progress report, and payment and review milestones; public participation work plan, presentation materials, and meeting minutes.

***NOTE*:**
For Tasks 2 and 3, the Agencies will assist the Consultant in the preparation of the different work products. For these tasks, the responsibilities of the Agencies and of the Consultant are defined.

TASK 2 - CORRIDOR CONDITIONS ASSESSMENT REPORT

CDOT will assist the Consultant in organizing all Stakeholder meetings and Public Meetings. It is anticipated that a minimum of three Consultant/Stakeholder meetings will be necessary in this Task. In addition to this, it is anticipated that numerous other contacts will need to be made with all of the public agency stakeholders, both at the staff level and the elected official level, to communicate and negotiate the stakeholders' concerns about specific problems and visions for the corridor.

The work product of this task is a Corridor Conditions Assessment Report. The report shall:

1. Document the existing transportation system in the corridor including highway through and auxiliary lanes, right-of-way and access; arterial lanes and access; transit types / service levels including station locations, routes and frequency, safety records and ridership and major concentrations of riders. The document shall also include bicycle and pedestrian facilities, planned and existing intermodal connection facilities and stations.
2. Document the travel markets that use the transportation system. Travel markets may be defined in terms of:
    - Geographic locations of the origins and destinations
    - Land Use characteristics
    - Trip purpose
    - Length of Trip
3. Summarize land use and modeling data as provided by the Agencies and DRCOG. Identify land use and development projects planned and programmed along the corridor and estimate their impacts on the operations and safety of the corridor.
4. Estimate future travel demands along the corridor with models from DRCOG and subsequent changes to Land Use Plans as provided by the Local Agencies. Future travel demands shall be compared to existing corridor capacity at select screen lines and inadequately served travel patterns shall be identified.
5. Identify distinct segments of SH-7 which share distinguishing urban traits, adjacent land use characteristics and existing roadway conditions.
6. Identify adjacent and parallel transportation facilities which have an impact on the SH 7 Corridor.
7. Summarize current roadway features including present roadway categorization per State of Colorado State Highway Access Code, lane configurations, roadway and right-of-way widths and adjacent land ownership characteristics, building set-backs, utility and environmental concerns, and those areas of the corridor that have been identified by past CDOT Safety Assessment Reports as having safety related issues.
8. The typical existing cross section for each discrete segment of the corridor should also be illustrated in the report along with an assessment of the operational and safety adequacy of that cross-section based on both existing and future (2035) travel demands.

9. Conduct an Environmental Scan of the Corridor:

Conduct an environmental scan and list of critical environmental issues within the corridor that include the following tasks:
• Map environmental resources and prepare a list of environmental issues. Include, at a minimum:
– Floodways and 100-year flood plain boundaries
– Likely locations of wetlands
– Known Archaeological sites
– Mines
– Hazardous waste sites
– Community or public wells
– Historical buildings, sites, and districts
– Rivers and lakes (identifying any designated wild and scenic rivers)
– State and national forests
– Wildlife reserves
– Critical wildlife habitat
– Threatened and endangered species (locations or likely presence)
– Public parks
– Prime agricultural land
– Pedestrian and bicycle access
– Noise
– Neighborhood/business displacement
• Summarize results from consultations with Resource Agencies as defined in Task 1.
• Identify those areas expected to require further analysis for NEPA purposes.
• Prepare an environmental scan report for CDOT and public review.
• Identify and describe any features that may require context sensitivity.

Expected Products (Results)

• An environmental scan map of key socioeconomic and environmental resources;
• A list of environmental issues within the corridor, and identification of areas that require further analysis.
• A report summarizing the results of the research of land uses and other characteristics of the region. The report should include:

– Community profile, including population, growth trends, and employment trends, for use in future forecasts
– Current land uses
– Planned land uses
– Historical and cultural buildings and site

10. Reference the list of issues that resulted from contacts with stakeholders and general knowledge of the corridor to identify a list of key needs in the corridor.
11. Prepare a preliminary list of existing and anticipated deficiencies in the corridor. The list should describe the existing or anticipated deficiencies in the transportation system and the growth or changing needs in the corridor along with an estimate as to the timeframe in which deficiencies will occur.

Agency Responsibilities - The Agencies will provide the Consultant with existing local land use and transportation plans, traffic counts, roadway striping plans (illustrating lane/roadway/right-of-way widths), on-street parking inventory/utilization, digital photographs of different roadway segments, information on sidewalk and parkway features, and building set-back, when available. The Agencies will identify the different segments along SH-7 for detailed analysis and provide the Consultant with LOS and travel time information for these study segments, if available. The Agencies will assist the Consultant in obtaining any other data which may be necessary in completing the existing conditions report. The Agencies will appoint one individual as their designated liaison to CDOT and the Consultant in order to better facilitate communication.

Consultant Responsibilities - The Consultant shall prepare a Corridor Conditions Assessment Report which includes all elements as described above.

TASK 2 WORK PRODUCT: Corridor Conditions Assessment Report which presents the findings from the Responsibilities described above in a clear and concise manner. A summary of comments and key issues received at Public-Stakeholder meetings.

TASK 3 DEVELOP A STATEMENT OF PURPOSE AND NEED AND IDENTIFY GOALS FOR THE CORRIDOR

Develop an Executive Summary containing the following:

1. Identify the visions CDOT and each jurisdiction have for the future of the corridor and points of disagreement and congruence.
2. Refer to data identified in the Corridor Conditions Assessment Report regarding existing and expected deficiencies in the transportation system serving the corridor area to compile a list of system deficiencies. Where possible, locate the deficiencies on a base map for use at the public meetings.
3. Prepare a draft or general Mission Statement and key issues to be discussed at a stakeholder meeting and at public meetings.
4. Prepare visual displays summarizing data compiled to date. Include key factors of the corridor including the preliminary list of deficiencies already identified.
5. Produce a written statement of purpose and need. This statement should be an "umbrella" statement for the corridor, based in identification of needs and deficiencies. The statement should reflect the context sensitivity of the corridor's communities to help reach their transportation goals by encouraging the consideration of land use, transportation, environmental and infrastructure needs in an integrated manner.
6. Identify goals and visions for the corridor.

TASK 3 WORK PRODUCT: An executive summary which presents the findings from the Responsibilities described above in a clear and concise manner. A summary of comments and key issues received at Public-Stakeholder meetings.

TASK 4 - CORRIDOR FEASIBILITY STUDY

A Corridor Feasibility Study shall be prepared with the following objectives.

1. Express a common vision between CDOT and the Agencies as to the future operational functionality of the corridor both as a whole and as discrete segments.
2. Develop a set of alternatives in which:
   a) Meets the Purpose and Need identified in the previous task.
   b) Balances regional mobility with local connectivity needs.
   c) Enhances corridor aesthetics, safety and urban design components and multi-modal objectives as previously identified within each discrete segment of SH-7
   d) For highway expansion or other modal use of CDOT right-of-way, an analysis should be conducted to identify alternatives for the most appropriate use of the existing right-of-way. A determination then has to be made if this represents the maximum right-of-way capacity or if additional right-of-way should be acquired

Five basic measures should be used to judge alternatives. This evaluation is intended to illuminate the issues and provide a coherent discussion prior to selecting a preferred corridor strategy.

- Assess Effectiveness – This analysis should quantify how each alternative addresses deficiencies and needs as identified in Tasks 2 and 3.
- Assess Land Use Consequences - This analysis should quantify how the alternatives will affect accessibility and mobility in the corridor. Resultant land use implications should then be assessed and compared to adopted comprehensive plans and zoning. Any inconsistencies between the proposed transportation investment and levels or types of development in local plans should be clearly identified and understood by all decision-makers. It should be noted that land use planning is not the purview of CDOT. Consequently, CDOT staff can only assist by providing information useful to those agencies with jurisdiction over land use and development policies, planning and decision-making.
- Assess Economic Feasibility – This analysis should compare the alternatives in terms of whether the benefits are commensurate with the costs. It also should consider the availability of funds for construction and operation as well as equity – the distribution of costs and benefits.
- Assess Environmental Feasibility - Impacts of each alternative on important environmental resources and feasibility regarding environmental issues and regulations. Conceptual avoidance and minimization measures should be developed following the identification of impacts and concerns.
- Assess the feasibility of each alternative regarding conformity with local comprehensive plan goals and policies.

3. Recommend and prioritize sections of the corridor for which a formal Access Control Plan should be implemented.
4. If the study identifies sections of the corridor which in the future will no longer have sufficient capacity, forecast the time period in which this is expected to occur.
5. Provide an easy-to-read pictorial summary guide that helps evaluate the pros and cons of each alternative in a creative and meaningful way.
6. Present Alternatives to the Public though whatever means is agreed to in Task 1.
7. Recommend ROW needs along entire length of the corridor.

Consultant Responsibilities - The consultant shall coordinate with CDOT and the other jurisdictions prepare a Planning and Environmental Linkage Report which will describe the findings, alternatives and visions developed in Task 4. Included in the report will be responses to the FHWA PEL Questionnaire as included in Appendix B.

TASK 4 WORK PRODUCT: Corridor Feasibility Study Report which presents the findings from the Responsibilities described above in a clear and concise manner. A summary of comments and key issues received as a result on the implementation of the Public Participation Work Plan as per Task 1.

TECHNICAL AND PEER REVIEW

All study reports and design work products will be reviewed by the Agencies

PROJECT SCHEDULE

The contract period shall be 12 months from the date of execution of the contract.

CONTRACT COMPLETION

This Contract will be satisfied upon acceptance of the following items if applicable:

A. Project Schedule
B. All work products as described above
C. Project Progress Meeting Minutes
D. All documents found In Research
E. All Permission to Enter forms
F. Photography Products
G. Ownership Map
H. Original Field Notes
I. Completion of review of contract submittals

APPENDIX A
REFERENCES

1 <u>AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) PUBLICATIONS</u> (using latest approved versions):

A. A Policy on Design Standards-Interstate System

B. A Policy on Geometric Design of Highways and Streets

C. Guide for Design of Pavement Structures

D. Standard Specifications for Highway Bridges

E. Guide for the Design of High Occupancy Vehicle and Public Transfer Facilities

F. Guide for the Development of Bicycle Facilities

G. Standard Specifications for Transportation Materials and Methods of Sampling and Testing –

Part 1, Specifications and Part II, Tests

H. Highway Design and Operational Practices Related to Highway Safety

I. Roadside Design Guide

2 <u>COLORADO DEPARTMENT OF TRANSPORTATION PUBLICATIONS</u> (using latest approved versions):

A. CDOT Design Guide (all volumes)

B. CDOT Bridge Design Guide

C. CDOT Bridge Detailing Manual

D. Bridge Rating Manual

E. Project Development Manual

F. Erosion Control and Storm Water Quality Guide

G. Field Log of Structures

H. Cost Data Book

I. Drainage Design Manual

J. CDOT Quality Manual

K. CDOT Survey Manual

L. CDOT Field Materials Manual

M. CDOT Design Guide, Computer Aided Drafting (CAD)

N. Erosion Control and Storm water Quality Guide

O. Standard Plans, M & S Standards

P. Standard Specifications for Road and Bridge Construction and CDOT Supplemental Specifications

Q. Item Description and Abbreviations (with code number) compiled by Engineering Estimates and Marked Analysis Unit, CDOT

R. Right-of-Way Manual, Chapter 2, Plans and Descriptions Procedures and General Information

S. The State Highway Access Code

T. Utility Manual
U. TMOSS Generic Format

V. Field TMOSS Topography Coding

W. Topography Modeling Survey System User Manual

X. Interactive Graphics System Symbol Table

Y. Corridor Optimization Guidelines

3 CDOT PROCEDURAL DIRECTIVES (using latest approved versions):

A. No. 400.2 Monitoring Consultant Contracts

B. No. 501.2 Cooperative Storm Drainage System

C. No. 514.1 Field Inspection Review (FIR)

D. No. 516.1 Final Office Review (FOR)

E. No. 1217a Survey Request

F. No. 1304.1 Right-of-Way Plan Revisions

G. No. 1305.1 Land Surveys

H. No. 1601 Interchange Approval Process

I. No. 1700.1 Certification Acceptance (CA) Procedures for Location and Design Approval

J. No. 1700.3 Plans, Specifications and Estimates (PS&E) and Authorization to Advertise for

Bids under Certifications Acceptance (CA)

K. No. 1700.5 Local Entity/State Contracts and Local Entity/Consultant Contracts and Local Entity/R.R. Contracts under C.A

L. No. 1700.6 Railroad/Highway Contracts (Under Certification Acceptance)

M. No. 1905.1 Preparation of Plans and Specifications for Structures prepared by Staff Bridge

Branch

4 FEDERAL PUBLICATIONS (using latest approved versions):

A. Manual on Uniform Traffic Control Devices

B. Highway Capacity Manual

C. Urban Transportation Operations Training – Design of Urban Streets, Student Workbook

D. Reference Guide Outline – Specifications for Aerial Surveys and Mapping by Photogrammetric Methods for Highways

E. FHWA Federal-Aid Policy Guide

F. Technical Advisory T6640.8A

G. U.S. Department of Transportation Order 5610.1E

H. Geometric Geodetic Accuracy Standards and Specifications for Using GPS Relative Positioning Techniques

I. ADAAG Americans With Disabilities Act Accessibility Guidelines

5 TRANSPORTATION RESEARCH BOARD:

A. Access Management Manual

APPENDIX B
PEL QUESTIONNAIRE

This questionnaire is intended to act as a summary of the Planning process and ease the transition from the planning study to a NEPA analysis. Often, there is no overlap in personnel between the planning and NEPA phases of a project, and much (or all) of the history of decisions, etc, is lost. Different planning processes take projects through analysis at different levels of detail. Without knowing how far, or in how much detail a planning study went, NEPA project teams often re-do work that has already been done. Planning teams need to be cautious during the alternative screen process; alternative screening should focus on purpose and need/corridor vision, fatal flaw analysis and possibly mode selection. This may help minimize problems during discussions with resource agencies. Alternatives that have fatal flaws or do not meet the purpose and need/corridor vision cannot be considered viable alternatives, even if they reduce impacts to a particular resource. This questionnaire is consistent with the 23 CFR 450 (Planning regulations) and other FHWA policy on Planning and Environmental Linkage process.

Instructions: These questions should be used as a guide throughout the planning process, not just answered near completion of the process. When a PEL study (i.e. corridor study) is started, this questionnaire will be given to the project team. Some of the basic questions to consider are: "What did you do?", "What didn't you do?" and "Why?". When the team submits the study to FHWA for review, the completed questionnaire will be included with the submittal. FHWA will use this questionnaire to assist in determining if an effective PEL process has been applied before NEPA processes are authorized to begin. The questionnaire should be included in the planning document as an executive summary, chapter, or appendix.

1. Background:

a. What is the name of the PEL document and other identifying project information (e.g. sub-account or STIP numbers)?

   b. Provide a brief chronology of the planning activities (PEL study) including the year(s) the studies were conducted.
   c. Provide a description of the existing transportation corridor, including project limits, modes, number of lanes, shoulder, access control and surrounding environment (urban vs. rural, residential vs. commercial, etc.)
   d. Who was the sponsor of the PEL study? (CDOT, Local Agency, Other)
   e. Who was included on the study team (Name and title of agency representatives, consultants, etc.)?
   f. Are there recent, current or near future planning studies or projects in the vicinity? What is the relationship of this project to those studies/projects?

2. Methodology used:

. Did you use NEPA-like language? Why or why not?

   a. What were the actual terms used and how did you define them? (Provide examples or list)
   b. How do you see these terms being used in NEPA documents?
   c. What were the key steps and coordination points in the PEL decision-making process? Who were the decision-makers and who else participated in those key steps? For example, for the corridor vision, the decision was made by CDOT and the local agency, with buy-in from FHWA, the Corps, and USFWS.
   d. How should the PEL information below be presented in NEPA?

3. Agency coordination:
. Provide a synopsis of coordination with federal, tribal, state and local environmental, regulatory and resource agencies. Describe their level of participation and how you coordinated with them.
    a. What transportation agencies (e.g. for adjacent jurisdictions) did you coordinate with or were involved in the PEL study?
    b. What steps will need to be taken with each agency during NEPA scoping?
4. Public coordination:
. Provide a synopsis of your coordination efforts with the public and stakeholders.
5. Corridor Vision/Purpose and Need:
. What was the scope of the PEL study and the reason for doing it?
    a. Provide the corridor vision, objectives, or purpose and need statement.
    b. What steps will need to be taken during the NEPA process to make this a project-level purpose and need statement?
6. Range of alternatives considered, screening criteria and screening process:
. What types of alternatives were looked at? (Provide a one or two sentence summary and reference document.)
    a. How did you select the screening criteria and screening process?
    b. For alternative(s) that were screened out, briefly summarize the reasons for eliminating the alternative(s). (During the initial screenings, this generally will focus on fatal flaws)
    c. Which alternatives should be brought forward into NEPA and why?
    d. Did the public, stakeholders, and agencies have an opportunity to comment during this process?
    e. Were there unresolved issues with the public, stakeholders and/or agencies?
7. Planning assumptions and analytical methods:
. What is the forecast year used in the PEL study?
    a. What method was used for forecasting traffic volumes?
    b. Are the planning assumptions and the corridor vision/purpose and need statement consistent with the long-range transportation plan?
    c. What were the future year policy and/or data assumptions used in the transportation planning process related to land use, economic development, transportation costs and network expansion?
8. Resources (wetlands, cultural, etc.) reviewed. For each resource or group of resources reviewed, provide the following:
. In the PEL study, at what level of detail was the resource reviewed and what was the method of review?
    a. Is this resource present in the area and what is the existing environmental condition for this resource?
    b. What are the issues that need to be considered during NEPA, including potential resource impacts and potential mitigation requirements (if known)?
    c. How will the data provided need to be supplemented during NEPA?
9. List resources that were not reviewed in the PEL study and why? Indicate whether or not they will need to be reviewed in NEPA and explain why.
10. Were cumulative impacts considered in the PEL study? If yes, provide the information or reference where it can be found.
11. Describe any mitigation strategies discussed at the planning level that should be analyzed during NEPA.
12. What needs to be done during NEPA to make information from the PEL study available to the agencies and the public? Are there PEL study products which can be used or provided to agencies or the public during the NEPA scoping process?
13. Are there any other issues a future project team should be aware of?
. Examples: Utility problems, access or ROW issues, encroachments into ROW, problematic land owners and/or groups, contact information for stakeholders, special or unique resources in the area, etc.